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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,904	06/23/2003	Robert Cordell Agler	NORTH-497A	7537

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EXAMINER	
ALSOMIRI, ISAM A	

ART UNIT	PAPER NUMBER
3662	

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/601,904	AGLER, ROBERT CORDELL
	Examiner	Art Unit
	Isam A Alsomiri	3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,10-13,16,21-23 and 28-32* is/are rejected.

7)☒ Claim(s) *7,9,14,15,17-20 and 24-27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-6, 8, 10-13, 16, 21-23, and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honma US 6,335,699. Referring to claims 1 and 23, Honma discloses in figures 1-11 a radar system 10, an antenna 2 having a transmitter surface for transmitting the radar beam, a protective member (radome) having an outer protective surface 13 and being externally located adjacent the antenna (radome), the operating frequency of any portion of the transmitted radar beam diffracting from the outer protective surface is mitigated (absorbed) to protect the radar compartment therefrom (see Abstract, col. 1 lines 5-7, col. 9 lines 18-29). Honma is silent about the alignment member. However, Honma teaches the antenna and the radome are aligned as shown in figure 1, therefore, there must be (inherent) an alignment member disposed between the antenna and the protective member (radome), which has to be shaped and configured to align the transmitter surface 2 toward the outer protective surface (radome) for transmission of the radar beam therethrough. Even if the alignment member is not inherent in the system, it would be obvious to include such alignment member to align the transmitter 2 and the protective member (radome) as in figure 1.

Referring to claim 3, Honma teaches the at least one transmitter formed thereon (figure 1 [2]).

Referring to claim 4, Honma teaches the protective member has a generally rectangular configuration (see figure 1).

Referring to claims 5 and 29, Honma teaches the protective member is a radome panel (see Abstract).

Referring to claim 6, it's inherent that the protective member is fabricated from a material substantially transparent to the radar beam (see Abstract).

Referring to claim 8, it's inherent that the protective member is fabricated from a plurality of piles 11 (see figure 1).

Referring to claim 10, Honma teaches the thickness is selected is selected based the working frequency. Therefore, it would be obvious to choose thickness ranging from about 0.16 inches to 0.19 inches if the working frequency requires this range.

Referring to claims 11-13 and 30, as mentioned above, Honma is silent about the alignment member. However, Honma teaches the antenna and the radome are aligned as shown in figure 1, therefore, there must be (inherent) an alignment member disposed between the antenna and the protective member (radome), which has to be shaped and configured to align the transmitter surface 2 toward the outer protective surface (radome) for transmission of the radar beam therethrough. Even if the alignment member is not inherent in the system, it would be obvious to include such alignment member to align the transmitter 2 and the protective member (radome) as in figure 1. Furthermore, it would be obvious to have alignment member from aluminum or steel material to hold the antenna and the radome firmly in position, and because metallic material do not diffract radio waves.

Referring to claim 16, as mentioned above, Honma is silent about the alignment member. However, Honma teaches the antenna and the radome are aligned as shown in figure 1, therefore, there must be (inherent) an alignment member disposed between the antenna and the protective member (radome), which has to be shaped and configured to align the transmitter surface 2 toward the outer protective surface (radome) for transmission of the radar beam therethrough. Even if the alignment member is not inherent in the system, it would be obvious to include such alignment member to align the transmitter 2 and the protective member (radome) as in figure 1. Furthermore, it would be obvious that the alignment member would comprise of mounting brackets and bolts being sized and configured to connect with the mounting bolts for engaging the alignment member to the transmitter surface.

Referring to claims 21 and 31, Honma teaches the radar beam is a radio frequency beam (see col. 2 lines 1-10).

Referring to claims 22 and 32, Honma is silent about the operating frequency is about 16 gigahertz. However, about 16 gigahertz is well used in radar systems (see col. 1 lines 9-15), and it would be obvious to have the working frequency of about 16 gigahertz.

Claims 2 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honma US 6,335,699 in view of Allen et al. US 6,661,368. Honma is silent about the antenna is a synthetic aperture radar antenna. However, Honma teaches the radar antenna is used on aircraft (see col. 1 lines 9-15), which can refer to synthetic aperture radar for imaging ground targets. Allen teaches a SAR system used on aircraft (see col. 1 lines 14-28). It would have been obvious to modify Honma's system to use an SAR antenna to obtain images of targets.

Allowable Subject Matter

Claims 7, 9, 14-15, 17-20, and 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited prior art to (Matthews; Schmidt et al.; Perkins et al.; Twelves et al.; Tanaka et al.) show various radar systems and radomes to protect the system from diffracted waves.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam A Alsomiri whose telephone number is 703-305-5702. The examiner can normally be reached on Monday-Thursday and every other Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isam Alsomiri

March 7, 2004

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